

**EMISSION INVENTORY****CATEGORIES #286 & 287****FUEL COMBUSTION - STATIONARY SOURCES****DOMESTIC - LIQUID PETROLEUM GAS (LPG)  
DOMESTIC - DISTILLATE OIL****1999 EMISSIONS***Introduction*

This category contains emissions from domestic fuel combustion of LPG and distillate oil.

*Methodology*

Emissions estimates from domestic LPG and distillate oil combustion are based on the "BTU equivalent - natural gas approach". This approach follows an ARB methodology as given in a document titled, "Methods for Assessing Area Source Emissions in California", Section 5-3. The approach is based upon, namely:

1. Number of housing units heated by LPG and distillate oil as provided by the 1990 Department of Finance's Census of Population and Housing.
2. Bay Area natural gas fuel usage as provided by Pacific Gas and Electric Company.
3. Natural gas usage conversion to average BTUs per household.
4. Estimation of LPG and distillate oil usage based on average BTUs per household.
5. Calculation of LPG and distillate oil emissions.

The emission factors for LPG and distillate oil, in lbs./1000 gals., are as follows:

<u>Fuel</u>	<u>PM</u>	<u>TOG</u>	<u>NO<sub>x</sub></u>	<u>SO<sub>x</sub></u>	<u>CO</u>
LPG	0.28	0.73	9.10	0.54	1.85
Distillate Oil	2.50	2.49	18.0	71.0	5.00

Emissions are calculated by multiplying the quantity of LPG or distillate oil with the respective emission factors.

### *Monthly Variation*

The monthly variation for LPG and distillate oil was based on data provided by PG&E Customer Accounting Department. This data details domestic natural gas usage by number of customers (dwelling units) in each county. For all counties except Solano and Sonoma, data sets reflecting the entire counties were used in the calculation. For Solano and Sonoma Counties, that are both partially in the District, only data for cities within the District were used. For Solano County, data sets used were for Benicia, Fairfield, Suisun and Vallejo. For Sonoma County, data sets used were for Cotati, Petaluma, Rohnert Park, Santa Rosa, Sebastopol and Sonoma.

### *County Distribution*

County distribution of emissions was based on the Department of Commerce's 1990 Census of Population and Housing for California. In that report, the number of homes using LPG and fuel oil as a heating medium were used in the estimate of county distribution.

### *Growth*

For Category 286 (Fuel Combustion, Stationary Sources, Domestic LPG), an assumption was made that annual emissions, over the years, would tend to follow household population data. Population data used in the projection was based on the Association of Bay Area Government's (ABAG's) projections report. For Category 287 (Fuel Combustion, Stationary Sources, Domestic Distillate Oil), the growth was assumed to be diminished as the fuel would eventually be phased out in favor of natural gas. A 2% reduction per year was chosen, starting in 1992.